

1981 Alberta Social Studies Curriculum

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..... *IN-SERVICE PROJECT:*

Knowledge Objectives Module

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OVERVIEW AND INTRODUCTION

How can students acquire the knowledge that will enable them to make sense of their world and contribute to it? What effect has history had on their lives? How do they deal with conflicts in their family, community, or the world at large? Answers to these questions, hopefully, will be partially provided as students use the revised Alberta Social Studies Curriculum.

The 1981 Social Studies Curriculum focuses on major issues to develop the students' awareness of the world and its problems and potentials. The intent of the curriculum is that students, by working on these issues, will increasingly develop intellectual independence, moral maturity, and more effective involvement in the political, economic and social affairs of their communities. To assist student development of such capabilities, the curriculum has built into it three interdependent components for learning: a values component, a knowledge component, and a skills component. Realistically the three components can rarely be taught separately.

In this workshop you will have the opportunity to work with the knowledge component. The workshop offers a way of structuring the information and ideas that make up the curriculum content.

The Curriculum Guide divides the knowledge component into three categories: facts, concepts, and generalizations. This workshop will give you the opportunity to examine these categories, their relation to each other and how they can be used to organize and develop the content of the grade level topics.

Suggested Times

Section One	- Facts, Concepts, Generalizations	20 minutes
Section Two	- Selecting Facts, Concepts and Generalizations	20 minutes
Section Three	- Using the curriculum's knowledge objectives	50 minutes

The total time for this workshop should be approximately 90 minutes. Try to stay within the suggested times for each section. Otherwise, the final section may be short-changed.

SECTION ONE

FACTS, CONCEPTS, GENERALIZATIONS

One approach to a structure of knowledge is to separate knowledge into three categories -- facts, concepts, and generalizations. In this section, you are asked to read the following article which describes the relationship between facts, concepts, and generalizations. Following the reading, discuss the two statements at the end of the article.

Today's fast-paced, open society is marked by tremendous change. The emphasis on expansion -- in goods, job opportunities, communications and technology -- generates vast amounts of information. We are facing,

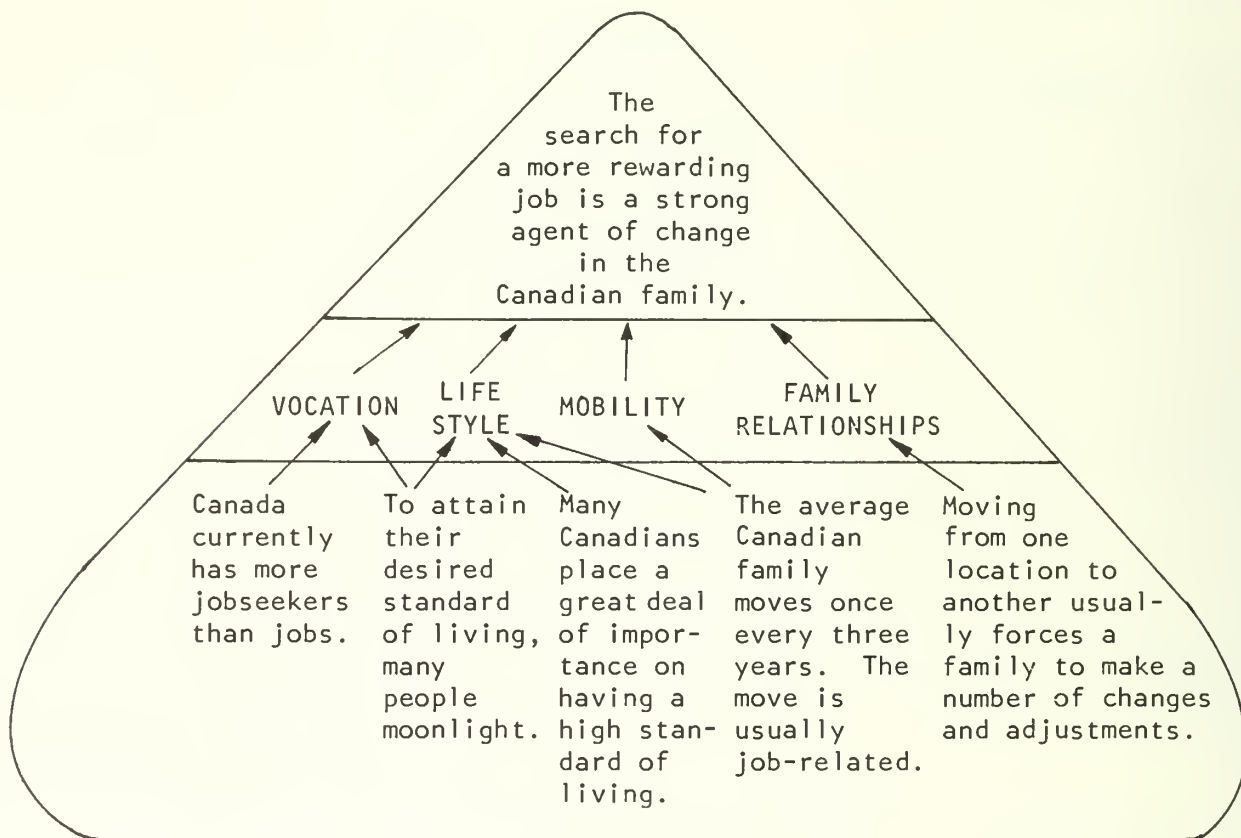
in fact, an information explosion. No person can possibly learn or teach all there is to know. Yet to cope with such rapid change, people need some basis of knowledge to help them make intelligent decisions among several choices.

Knowledge is especially important for students in a democratic system because they need to develop ideas about the world and how to function effectively within it. How can they handle the information barrage? More than ever, students must have a viable method of sorting, cataloguing and processing information.

The following diagram illustrates:

- 1) how facts can be used to support and define concepts and,
- 2) how these supported concepts, in turn, support a generalization.

Information Organized in a Pattern of Facts, Concepts and Generalizations



When the student uses facts and concepts to derive a generalization she/he is using the *inductive* method of inquiry. When the student moves in the other direction and uses generalizations to derive concepts and facts, she/he is using the *deductive* method. Both methods can be applied to teaching issues. However, the curriculum emphasizes an approach of inquiry and creative thinking that may be more characteristic of the inductive approach. Given variety in learning styles, however, exclusive reliance on any one approach is not warranted.

DISCUSS:

1. The article says that the current information explosion presents some serious problems to citizens of an open, democratic society. It suggests that students must learn systematic ways of organizing data if they are to be effective citizens in our society. What are your thoughts on this view?
2. What classroom implications for teaching (and for student evaluation) does an emphasis on teaching concepts and generalizations have? What implications on student evaluation does such an emphasis have?

(*Caution:* There is a great deal to discuss in these two statements, but remember your time limit. The statements have been presented as thought provokers to be kept in mind as you work through the remaining activities.)

SECTION TWO

SELECTING FACTS, CONCEPTS AND GENERALIZATIONS

In this activity, your task is to structure information into facts, concepts and generalizations. Allow yourself approximately 20 minutes for this session.

Read the following paragraph:

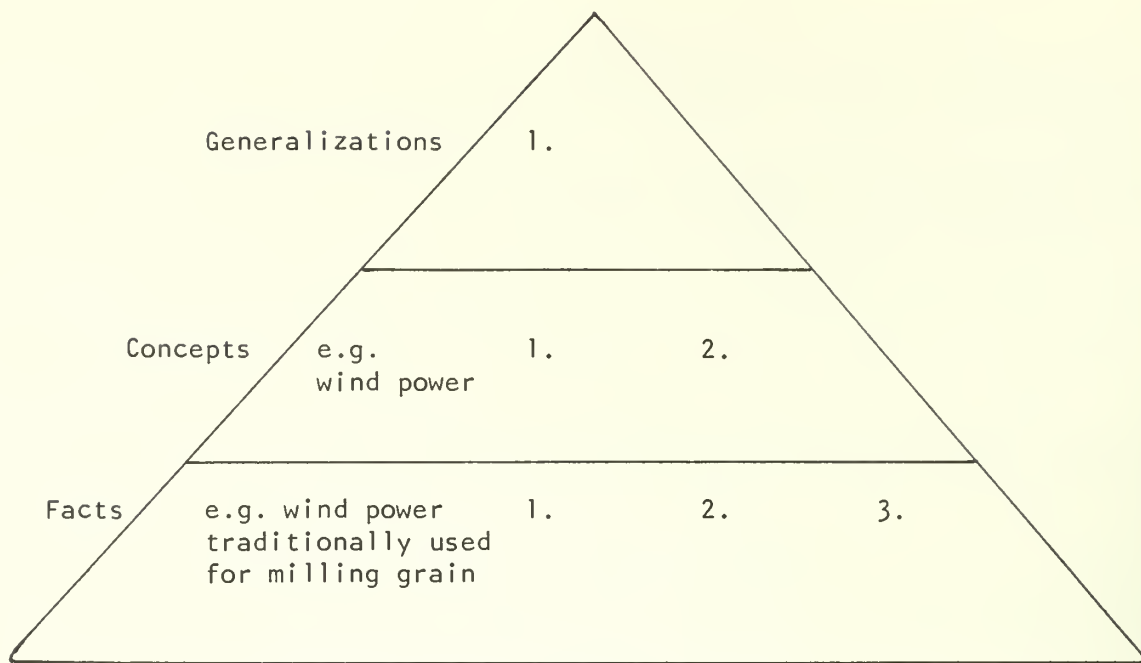
The Wind

"Energy supplies are available from the wind. The wind's power has traditionally been used for milling grain and pumping water, but the latest wind-powered machines are designed for generating electricity. In Canada, wind turbines already produce power for the Magdalen Islands in the Gulf of St. Lawrence, and they are proposed for local use throughout the northland. In the U.S.A., there is even a radio station run by wind power, although its broadcasts are a little erratic. The possibilities for local power production are considerable, especially in persistently windy locations."

Source: *World Prospects*, John Molyneux, Marilyn Olsen
Prentice Hall, Scarborough, Ontario, 1979
(A prescribed text for Grade 1)

To identify and link facts, concepts and generalizations, complete the following:

Individually: Underline three statements of fact in the excerpt. Circle two concepts. Select a generalization from the excerpt or draft your own, using the accompanying chart. Keep in mind the triangle scheme used in the previous exercises. The apex of the triangle is the generalization. You will be working toward the base as you select concepts and factual data. This is a common technique or method when planning a unit.



Once you have finished your individual task, work with your group to:

- Compare your results. Do you all agree on the selections made? Briefly discuss your generalizations.

SECTION THREE

USING THE KNOWLEDGE OBJECTIVES

In this section you will be examining how the knowledge objectives can be used to help structure material for a grade level topic. Try to answer the following questions on the chart on pages 6 and 7. An example has been provided on pages 9 and 10 for your reference.

1. Select a grade and topic from the 1981 Curriculum.
2. Record the generalization listed in the Curriculum Guide.
3. Which concepts listed below the generalization are directly related to the generalization?
4. Are those concepts adequate or are other concepts needed in order to develop the generalization?
5. Select one or two concepts for further development. Can these be broken down into more specific/concrete concepts? Which questions listed in the Curriculum Guide relate to these concepts?
6. What historical and geographic data would be appropriate for an understanding of the selected concepts and generalization?

7. Briefly outline a general teaching strategy that you think would lead to an adequate understanding of the selected facts, concepts and generalization.

OPTIONAL ACTIVITIES (TIME PERMITTING)

8. Identify a specific sequence of activities showing how factual data can be used to develop particular concepts.
9. What specific activities might be used to synthesize the facts and concepts into a generalization?
10. Powerful learning activities accomplish several objectives. How might the activities for Knowledge Objectives that you have identified above also serve to meet some of the Value and Skill Objectives listed for the topic?

KNOWLEDGE OBJECTIVES CHART

Directions:

1. GRADE:

TOPIC:

2. GENERALIZATION:

3. RELATED CONCEPTS IN CURRICULUM GUIDE:

4. ADEQUACY OF CONCEPTS:

5. RELATED SPECIFIC/CONCRETE CONCEPTS:

RELATED QUESTIONS FROM CURRICULUM GUIDE:

6. HISTORICAL, GEOGRAPHIC AND CITIZENSHIP DATA NEEDED:

7. GENERAL TEACHING STRATEGY:

8. CONCEPT DEVELOPMENT ACTIVITIES: (_____)

9. DEVELOPING A GENERALIZATION:

10. INTEGRATION:

KNOWLEDGE OBJECTIVES CHART

<p>1. GRADE: TOPIC:</p>	<p>7. GENERAL TEACHING STRATEGY</p>
<p>2. GENERALIZATION:</p>	<p>8. CONCEPT DEVELOPMENT ACTIVITIES (_____)</p>
<p>3. RELATED CONCEPTS IN CURRICULUM GUIDE:</p>	<p>9. DEVELOPING A GENERALIZATION:</p>
<p>4. ADEQUACY OF CONCEPTS:</p>	
<p>5. RELATED SPECIFIC/CONCRETE CONCEPTS:</p>	
<p>RELATED QUESTIONS FROM CURRICULUM GUIDE:</p>	
<p>6. ADDITIONAL FACTUAL DATA NEEDED:</p>	

KNOWLEDGE OBJECTIVES CHART (EXAMPLE)

1. GRADE: 5

TOPIC: B - Canada: Industrial Development From Region to Region

2. GENERALIZATION:

The industries that develop in a region tend to be those which make use of locally available resources and contribute to the economic welfare of the people.

3. RELATED CONCEPTS IN CURRICULUM GUIDE:

regions
resource

industry
depletion

resource development
conservation

employment
standard of living

4. ADEQUACY OF CONCEPTS:

add "economic welfare"

5. RELATED SPECIFIC/CONCRETE CONCEPTS:

regions

geographic
region

natural
physical
features

mountains
rivers
lakes
plains
oceans
forests

RELATED QUESTIONS FROM CURRICULUM GUIDE:

- "What are Canada's major geographic regions?"
- "How is population distributed throughout Canada? What are the major population centres?"
- "What natural resources are to be found in each region?"
- "How do these natural resources contribute to industrial development?"
- "What forms of transportation are used to bring natural resources to manufacturing and refining centres?"
- "What forms of employment are associated with resource development?"
- "What effects do resource depletion and industrial growth have on people in the communities and regions of Canada?"

6. HISTORICAL, GEOGRAPHIC AND CITIZENSHIP DATA NEEDED:

HISTORICAL - not applicable.

GEOGRAPHIC - Canada's geographic regions, including resource base, major industries and economic well-being in each. The relationships between these factors should be investigated.

CITIZENSHIP - OPTIONAL - What roles do governments play in promoting resource development within each region? What roles do they play in promoting conservation?

7. GENERAL TEACHING STRATEGY:

Have student research groups gather data on each region; state conclusions for the region studied about resources, industry and economic welfare; compare findings and conclusions to those of other groups studying the other regions; and develop a generalization about the relationships between industries, resources and economic welfare within regions.

8. CONCEPT DEVELOPMENT ACTIVITIES: ("natural physical features")

1. Students examine photos (slides, posters, filmstrips, film, etc.) of a variety of natural physical features (mountains, ocean, forest, prairie, tundra, etc.).
2. Teacher defines concept of "natural physical features."
3. Teacher presents a series of examples and non-examples of natural physical features: e.g., mountain, hi-rise; river, canal; lake, sewage lagoon.
4. Students group the examples and non-examples into categories (natural physical features and man-made features).
5. Students explain the bases for their grouping.
6. Students explain why the non-examples do not belong to the category of natural physical features.

9. DEVELOPING A GENERALIZATION:

After the student research into each region has been completed and reported to the class, the teacher might ask the following:

1. Where do major industries in each region get their natural resources?
2. How do major industries in each region contribute to the economic welfare of the people?
3. What general statement can be made about the relationships between the industries, resources, and economic welfare in all the regions studied?

10. INTEGRATION:

VALUES - As students do research on industries and resources in each region, they might make inferences about conflicting attitudes towards conservation and resource development.

INQUIRY SKILLS - Students can participate in setting research questions and procedures for their group research projects. They can gather data from maps, graphs and tables. They can synthesize through their generalizing activities.

KNOWLEDGE OBJECTIVES CHART

1. GRADE: 6 TOPIC: "A" - How People in Earlier Times Met Their Needs	7. GENERAL TEACHING STRATEGY: Have students gather data from a variety of sources, organize it into categories, compare the ancient civilization to Canada, and develop generalizations about basic needs.
2. GENERALIZATION: "All people have similar physical, social and psychological needs. How these needs are met have varied over time and from place to place."	8. CONCEPT DEVELOPMENT ACTIVITIES: (<u>physical needs</u>) 1. Students are presented with examples of various types of food, clothing, shelter and transportation. 2. Teacher defines concept of "physical needs". 3. Teacher presents a series of examples and non-examples of physical needs: i.e., tortillas (example), astrology (non-example), mud brick (example), picture symbols (non-example), canals (example). 4. Students group the examples and non-examples into categories (physical needs and other needs). 5. Students explain the bases for their grouping. 6. Students explain why the non-examples don't belong to the category of "physical needs".
3. RELATED CONCEPTS IN CURRICULUM GUIDE: "basic needs"	9. DEVELOPING A GENERALIZATION: After the knowledge questions and concepts have been developed, the teacher might ask the following: 1. Do you have similar basic needs as the people studied? Do you need food, clothing, etc? Do other Canadians have similar needs? What general statement can we make about basic needs and people? 2. How were each of these needs met in the ancient civilization studied? How are they met by Canadians today? What general statement can we make about the ways in which needs are met in different times and places?
4. ADEQUACY OF CONCEPTS: "basic needs" is central to the generalization - can be broken down into different types of needs.	
5. RELATED SPECIFIC/CONCRETE CONCEPTS" basic needs: physical - food, clothing, shelter, transportation social - communication, social order, education psychological - religion, affection, security	
6. ADDITIONAL FACTUAL DATA NEEDED: - comparisons between different societies - e.g., the ancient civilization studied and Canada today.	

Excerpts from: *Helping Students Think and Value* by Jack R. Fraenkel

Notes on Facts and Concepts

FACTS

Facts are what logicians refer to as contingent statements or testable propositions. Their proof is contingent upon the presence or absence of empirical evidence with which any disinterested or non-partial observer would agree. They represent things which actually exist or which have happened in the past. The activities of individuals, the dates of events, the location of places, the size of objects, specific rules of procedure — all are facts. Statements of fact provide us with information and can be verified as being true or false. Factual statements refer to particulars rather than universals.

CONCEPTS

Unlike facts, concepts are definitional in nature. They represent those characteristics that are common to a group of experiences. Whereas facts refer to a single object, event, or individual, concepts represent something common to several events, objects, or individuals. Concepts do not "exist" in reality, but represent our attempts to give order to reality — to order that information from our environment which we receive through our senses. We attempt to bring order to this sensory input by attaching symbols (word labels) to certain similarities we perceive in our experience.

Concepts are thus mental constructions invented by man to describe the characteristics that are common to a number of experiences. They enable us to relate a wide variety of individual and separate pieces of information into categories we devise, including in those categories those items which belong and excluding those which do not. Concepts facilitate understanding, for they make communication easier.

GENERALIZATIONS

Generalizations are statements that express relationships among concepts. Like facts, they can be supported or refuted by recourse to observable evidence of various kinds.

Generalizations suggest relationships which appear to exist in the world, and offer insights into the way the world 'works'. Their validity is attested to by the amount of factual data in existence which supports the relationship they suggest.

Generalizations are aids to thinking and understanding. They not only describe data but also give structure to this data. Whereas facts refer to unique events, individuals, or situations, the relationships which generalizations suggest refer to more than one example. Thus, as illustrations of the generalization that "man's ways of living are affected by the physical and social environment in which he lives" factual examples from ancient Egypt, France during the days of Louis XIV, or contemporary Edmonton could be selected.

Attributes of Concepts

Jerome Kagan, in *Understanding Children: Behavior, Motives and Thought*, suggests that there are four important qualities that can be applied to all concepts, regardless of the meaning of the common characteristics that the concept represents. These qualities are: degree of abstraction, complexity, differentiation, and centrality of dimensions.

1. Degree of Abstraction

Concepts vary in terms of the nature of their characteristics. Concepts whose characteristics can be pointed to or experienced directly — such as flowers, dogs, and factories — are often referred to as 'low-level' abstractions, and sometimes referred to as concrete. Concepts whose characteristics cannot be pointed to or experienced directly — such as freedom, honor, or intelligence — are said to be 'higher-level' abstractions. The attributes of concrete concepts can usually be identified by the senses. They can be tasted, touched, heard, seen, or felt. The characteristics of the more abstract, or 'higher-level' concepts are often other concepts. Writes Kagan: "The concept of intelligence, for example, rests on the dimension of language proficiency, alertness, adaptability, and learning ability. Each of these four dimensions is itself an abstract concept resting on its own set of dimensions."

2. Complexity

Concepts also differ in the *number* of attributes needed to define them. The more attributes needed, the more

3. *Differentiation*

Complex the concept is considered to be. The concept of cat, for example, is fairly simple, for it rests on only a few dimensions (four-legged, furry, purrs, meows, retractable claws, elongated pupils, rough tongue, whiskers, and pointed ears). The concept of culture, on the other hand, is quite complex, since it is defined by a host of attributes that include, among others, such concepts as ideas, customs, laws, traditions, institutions, and patterns of behavior, with each of these concepts being defined by a number of further attributes of their own. The more complex a concept is, however, the more difficult it becomes for students to understand. Students vary widely in the degree to which they understand complex concepts. (No one probably understands any concept totally, since individual understanding represents a major problem for social studies teachers since much social content includes such complex concepts. (For example, urbanization, democracy, institution, fair play, nationalism, leadership, culture and co-operation.)

It is important to remember, however, that concepts are formed through experience. The kinds of experience a person has enables him to develop concepts of differing levels of abstraction. Thus, concrete experience that directly involve the senses (i.e., the actual touching, tasting, hearing, smelling, or seeing of concrete objects), as is the case with particular colors, sounds, or shapes, enable us to formulate such concepts as 'house' or 'blue'. Experiences which involve varying combinations of concrete objects over a period of time enable us to formulate concepts which are somewhat more complex such as 'home' or 'blueness' or highly complex as in those cases when we experience what we later refer to as examples of 'patriotism', 'democracy', or 'justice'. This developmental process is a gradual one, depending on age as well as experience. Thus, "from 'things I can drive this tent stake with' we move to the concept 'hammer' and from there to 'mechanical force', each step being freer of definition by specific use that the former". It is for this reason that *many different kinds of* experience, both direct (the actual touching, viewing, etc., of things) and indirect (the use of words and symbols), are important if students are not only to acquire an adequate repertoire of concepts in general, but also to understand the meaning of complex concepts in particular.

Concepts also differ to the degree to which the basic set of common characteristics that they stand for can assume varied but related forms to express slightly different versions of the idea that the concept represents. Thus, a concept like 'screwdriver' is not very finely differentiated, since it can only take one form and there are no other words in our language which describe different kinds of screwdrivers. A concept like 'fruit', however, is highly differentiated, for it can take many forms from banana to peach to cherry. Kagan suggests that the concepts that are most central to a particular culture are most highly differentiated. Thus, in our society, "the concept of property is captured by many related ideas, including land, money, furniture, stocks, bonds, cattle, and rights to an invention. The concept of inheritance, which is of considerably less significance to our society, has relatively few terms that distinguish among its forms.";

4. *Centrality of Dimensions*

The meaning of some concepts is derived from one or two key or critical attributes which point to the central features of the idea that the concept represents. The meaning of other concepts can only be understood by considering a number of attributes, each of which is equally important in defining the concept. Thus, the meaning of the concept of 'tourist', for example, rests on the key attributes of 'travel', 'for pleasure', and 'permanent home elsewhere', ignoring more peripheral characteristics such as, type of clothes worn by individuals or the color of their skin. The meaning of the "concept 'living animal' by contrast rests equally on the dimensions: capacity to reproduce, to exchange oxygen, and to ingest food and excrete waste. Each of these dimensions is of approximately equal significance in defining the concept."

Excerpts from: *Helping Students Think and Value* by Jack R. Fraenkel, pages 93 - 104.

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